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**INTENDED USE**

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Sigma-Aldrich Methyl Green-Pyronin Stain is for identification of Plasma Cells in Tissue Sections. Methyl Green-Pyronin Stain is for "In Vitro Diagnostic use."

Methyl Green-Pyronin (MGP) is used to demonstrate plasma cells and RNA in tissue sections and cytologic preparations. The procedure is a simplified method for use with formalin fixed tissue or alcohol-ether fixed smears. Pyronin stains the cytoplasm of plasma cells and most nucleoli red. Methyl green stains DNA bluish-green, but the presence of crystal violet in solution makes this solution unsuitable for the reliable demonstration of DNA.

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**REAGENTS**

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**METHYL GREEN-PYRONIN (MGP) SOLUTION**, Catalog No. HT70-1

Methyl green (certified), 0.012%, pyronin Y (certified), 0.01% methanol, 0.75%, in deionized water.

**STORAGE AND STABILITY:**

Methyl Green-Pyronin (MGP) solution should be stored at room temperature (18–26°C). Reagent label bears expiration date.

**PREPARATION:**

Methyl Green-Pyronin Solution is ready to use.

**PRECAUTIONS:**

Normal precautions exercised in handling laboratory reagents should be followed. Dispose of waste observing all local, state, provincial or national regulations. Refer to Material Safety Data Sheet for any updated risk, hazard or safety information.

**US Risks and Safety Statements**

Methyl Green-Pyronin Solution. Caution: Substance not yet fully tested.

Xylene is **FLAMMABLE** and **HARMFUL**. Possible risk of impaired fertility. May cause harm to the unborn child. Harmful by inhalation and in contact with skin. Irritating to respiratory system and skin. Risk of serious damage to eyes. Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Acetone is **FLAMMABLE** and an **IRRITANT**. Irritating to eyes. Repeated exposure may cause skin dryness or cracking. Vapors may cause drowsiness and dizziness. Keep container in a well-ventilated place. Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Target organs: Liver and kidneys.

**EU Risks and Safety Statements (Caution: Substances not yet fully tested)**

Methyl Green-Pyronin Solution. Caution: Substance not yet fully tested.

Xylene is **HARMFUL**. Flammable. Harmful by inhalation and in contact with skin. Irritating to skin. Avoid contact with eyes.

Acetone is **HIGHLY FLAMMABLE** and an **IRRITANT**. Highly flammable. Irritating to eyes. Repeated exposure may cause skin dryness or cracking. Vapors may cause drowsiness and dizziness. Keep container in a well-ventilated place. Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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**PROCEDURE**

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**SPECIMEN COLLECTION:**

It is recommended that specimen collection be carried out in accordance with NCCLS document M29-A2. No known test method can offer complete assurance that blood samples or tissue will not transmit infection. Therefore, all blood derivatives or tissue specimens should be considered potentially infectious.

Formalin fixed paraffin sections cut at 5–6 microns may be used.<sup>1,2</sup>

**SPECIAL MATERIALS REQUIRED BUT NOT PROVIDED:**

Positive control slides, such as normal lymph node or tonsil should be included in each run  
Microscope

Microscope slides, coverslips and staining dishes

Acetone, ACS Reagent

Xylene

**NOTES:**

The data obtained from this procedure serves only as an aid to diagnosis and should be reviewed in conjunction with other clinical diagnostic tests or information.

**PROCEDURE:**

1. Deparaffinize tissue and hydrate to deionized water.
2. Stain in MGP Solution for 5 minutes.
3. Rinse thoroughly in deionized water.
4. Dehydrate and clear using acetone, acetone/xylene (1:1) and xylene.<sup>4,5</sup> Mount.

Acetone:	2 or 3 quick dips
Acetone/Xylene:	2 changes of 1–2 minutes each
Xylene:	2 changes of 1–2 minutes each

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**PERFORMANCE CHARACTERISTICS**

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Nuclei	—	Purple to bluish
Nucleoli	—	Red
Cytoplasm of plasma cells	—	Red
RNA	—	Red

If observed results vary from expected results, please contact Sigma-Aldrich Technical Service for assistance.

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**REFERENCES**

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1. Brown G: A modification of methyl green-pyronin stain for plasma cells and RNA in formalin fixed tissue. *J Histotech* 2:19, 1979
2. *Diagnostic Cytology and Histopathologic Bases*, 3rd ed., Vol 2, Edited by LG Koss, Lippincott, Philadelphia, 1979
3. *Theory and Practice of Histotechnology*. Edited by DC Sheehan and BB Hrapchak, 2nd ed. Mosby, St. Louis, MO, 1980, p 151
4. Luna, Lee G., *Manual of Histologic Staining Methods of the Armed Forces Institute of Pathology*, Third Edition, McGraw-Hill Book Company, New York 1968
5. *Theory and Practice of Histotechnology*. Edited by DC Sheehan and BB Hrapchak, 2nd ed. Mosby, St. Louis, MO, 1980, p 106

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